THE
VETERINARY RECORD.

The Official Journal of the National Veterinary Medical Association of Great Britain and Ireland, Limited.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 36. SEPTEMBER 6, 1924. VOL. 4.

The President of the National Veterinary Medical Association.

AN APPRECIATION.

To the majority of our readers, the President of the "National," Mr. H. J. Dawes, needs no introduction, and there must be few members of our profession who can claim a wider circle of friends and acquaintances or a greater knowledge of the varied interests and aims of the Veterinary Profession. For many years Mr. Dawes has been closely associated with every movement of importance that has taken place within our ranks, and this association is proof of the confidence and esteem in which he has always been held. Qualifying in 1885 at London, and becoming a Fellow of the Royal College of Veterinary Surgeons in 1892, Mr. Dawes has been engaged in a wide general practice for many years, and a summary of the work he has accomplished in general professional matters is a brilliant example of the adage that it is the busiest man who finds time to do most.

No more fitting tribute could be found than in his association with the Midland Counties Division, of which he is one of the oldest members. Joining the Division in 1887, Mr. Dawes threw himself into its objects and interests with great enthusiasm: he was elected its Secretary in 1891, and with the exception of two years, when he held the position of President, he has remained its active and valued Secretary up to the present time. Few men can point to such a record of thirty-four years' watchful guidance of such an association, and it is remarkable that during this period, on only one occasion, and then when recovering from a serious illness, has Mr. Dawes failed to occupy his usual place at the meeting.

It is given to few of us to realise many of our ambitions, but from the early days of his career Mr. Dawes had always held fast to the ideal of a great, united veterinary association, which would stand out as representing the ideals and aims of the profession as a whole. In his presidential address to the Midland Division, delivered by him so long ago as August, 1898, Mr. Dawes made the following statement: "There are certain questions of general interest to us as veterinary surgeons upon which I should like to venture an opinion, and first and foremost is that of the proposed affiliation of the various veterinary medical societies of the kingdom with the National Veterinary Medical Association. The idea, as most of you are aware, had its origin in some remarks made by a past president of our own Society, and I think it is one which has in it all the elements of good. Such a representative body would be able to deal effectually with any question which concerned the welfare of the profession, and succeed in adjusting a grievance or removing an evil when individual organizations might often fail. It need not interfere in any way with the regular work of the existing societies, and the financial difficulty, which alone seems to stand in the way of bringing the matter to a successful issue, is one which ought readily to be overcome."

Mr. Dawes has seen this pioneer work result at last in the successful establishment of the National Association, and it is a fitting tribute to the man who expressed those views some twenty-five years ago that he occupies the presidential chair of the National to-day. In 1899 Mr. Dawes, together with the late Mr. John Malcolm, as delegates of the Midland Division, attended the Eighth International Congress of Veterinary Surgeons at Baden-Baden; in 1909 he visited the Ninth International Congress held at the Hague, and he was present in the same capacity at the ill-fated Tenth International Congress held in London. Much might be said of his association with the Midland Division. The keenness of the Secretary is a by-word among its members, and many of the younger generation of veterinarians have made their initial debut as essayists under his kindly guidance.

Mr. Dawes has a large experience of the educational side of our profession. Elected to the Examining Board of the Royal College of Veterinary Surgeons in 1903, he has been an examiner for the Membership Diploma, in the subject of Stable Management and Shoeing, for many years, and for some considerable time has been chairman of the Board of Examiners for the Class B examination, whilst he has been a member of the Board of Examiners for the Fellowship Diploma since 1916.

During the war Mr. Dawes was elected a member of the Military Tribunal set up to hear applications for exemption from service by veterinary surgeons, and his intimate knowledge of the varying conditions of practice was of the greatest value to his colleagues.

He is also keenly interested in the work of the Victoria Benevolent Fund, of the Council of which he is a member.

One of the chief characteristics of Mr. Dawes is his talent for making lasting friendships. A man of wide interests and a diverse reader, he has always been cordially accessible to the younger members of our profession, and it is this broadness of vision which

has always made him the welcomed friend of both old and young veterinary surgeons, whilst in any advances of real scientific value to veterinary medicine and surgery he has always been as a keen observer and an enthusiast foremost amongst demonstrators of new methods.

Mr. Dawes was born in West Bromwich some sixty years ago, and though none of his relations was connected in any way with the veterinary profession, he elected to serve a pupilage before entering the London College and taking his diploma. For some years he was with the late Mr. Stanley, of Birmingham, but immediately after qualifying he started practice on his own account in his native town of West Bromwich, where he has now been practising for nearly forty years, and has made for himself a reputation for good work and sound commonsense which extends throughout the Midlands and beyond. As an expert on shoeing, he is in demand at many of the larger agricultural shows in the capacity of judge. His son, Howard, has followed in his father's footsteps, and, qualifying in 1913 as a veterinary surgeon, now assists him in working a large and varied practice. He also is an enthusiastic member of the Midland Division, and has already earned for himself the praise and admiration of his fellow members for his ability and smartness.

Since his election as President of the "National" Mr. Dawes has put in a vast amount of work for the Association; he has attended meetings of the different Divisions throughout the country, everywhere carrying with him a genial enthusiasm and a sympathetic understanding, and receiving a most appreciative welcome. Of him it may be said that he has participated in the spade work, and has striven at all times to erect the National Association on a solid basis, without which no such structure may endure, and it is due in no small measure to his sympathetic and careful guidance that the National has shown such increased prosperity during his term of office.

Mr. J. M. Metherell, at a meeting of Devon Diseases of Animals Committee, said he had been told that several sheep had died as a result of double-dipping, and that it should be made generally known that the second dip should not be more than half the strength of the first.

A sale of 600 Irish cattle at Reading on September 17th will mark a new departure in this important trade between the United Kingdom and Ireland. It will be the beginning of a co-operative movement between breeders and farmers for the elimination of the middleman.

The National Pig Breeders' Association report that a sow belonging to one of its members in Yorkshire has produced a litter of 23 pigs, including one with two heads and eight legs.

The Hygienic Construction of Cowsheds, with special reference to the Production of Clean Milk.*

By R. G. Linton, M.R.C.V.S., Department of Hygiene, The Royal (Dick) Veterinary College, Edinburgh.

What part does the cowshed play in the production of clean milk? There are some few hygienists who say that it plays an all-important part, and that it is not possible to produce clean milk in a badly-constructed and unhygienic shed. Others say that the construction of the shed is of small importance so far as the cleanliness of the milk is concerned.

It is suggested that neither of these extreme views is correct.

The proper construction of the shed is of importance for the following reasons:—

(1) Cows can only be maintained in a healthy state in a sanitary building.

(2) While it is possible for specially-trained men, equipped with suitable utensils, to produce clean milk from dirty cows in a dirty shed, it is very much easier to do so in a clean shed with clean cows.

(3) Environment undoubtedly plays an important part on the pyschology of workers; if men work in clean, bright, healthy surroundings, they will think in terms of cleanliness, and the converse holds true.

(4) It is difficult to keep cows clean in a badly-constructed building. This discourages the workers.

(5) It is comparatively easy to keep cows clean in a properly-constructed building. This gives the workers encouragement.

(6) A faulty shed lodges dust, as, for example, on complicated roof trusses and on open wall heads. This dust sooner or later finds its way into the milk pails.

Cowsheds can be divided into three groups:—

(1) Extravagant establishments built regardless of cost by the rich who take up clean milk production as a hobby.

(2) Simple, clean, hygienic buildings, suitable for the commercial production of clean milk.

(3) Unhygienic, dark, badly-ventilated and badly-constructed buildings.

Since the production of clean, high-grade milk should be, and can be, a commercial undertaking, it is on the second class of building that we want to focus attention. The erection of extravagant and fancy buildings has done harm to the campaign for the production of clean milk by discouraging would-be clean milk producers.

As to the third class, many of the existing buildings are quite unsuitable for the purpose they were originally intended to serve, and in many cases it would be more economical to pull them down than to attempt to improve them. On the other hand, many of them can be greatly improved at comparatively little expense. It should be the object of the hygienist to

* Remarks accompanying a lantern-slide demonstration given at the Veterinary Inspectors' Conference held in connection with the Royal Sanitary Institute's Congress at Liverpool in July.

bring them as near to the second class as possible, at the same time remembering that reconstruction should not be pressed so as unduly to embarrass the producer.

It has been said that really satisfactory human dwellings will not be designed until women become architects; whatever truth, if any, there may be in that statement, I am quite certain that the only way to produce a satisfactory cowshed is by the co-operation of architect, veterinary hygienist and milk producer. It is very rare indeed to go into a cowshed and find it free from faults. Many a dairyman has had his shed re-constructed, or has built a new one, and wished afterwards that he had left undone something that he had done, or done something that he had left undone. It should be possible to avoid these mistakes.

In designing a cowshed the following leading points, among others, should be kept in mind:—

(1) The object of a shed is to shelter cows from extreme weather conditions, cold, heat, strong cold winds and driven rain. A shed should not be built for the purpose of keeping the cows warm.
(2) There must be no unnecessary expenditure of money.
(3) Simplicity of construction is important. This will result in (*a*) economy in first cost, repairs and general upkeep; (*b*) the shed will be easy to keep clean.

The object of this address is to present to you what I consider are the hygienic requirements of a cowshed about to be built for the commercial production of clean milk. Since one of the objects of such a Conference as this is the discussion of debatable points, and if possible their settlement, special stress will be laid on those details of construction concerning which there are marked differences of opinion.

Following his introductory remarks, Professor Linton showed over forty lantern slides descriptive of various types of cowsheds, good and bad. He drew attention to what he thought were the most important points in construction as affecting the health and safety of the cows, economy in labour, and cleanliness in milk production. It was suggested that no more than two rows of cows should be housed under one roof, and that the animals should be placed tail to tail, and not head to head. The cubic capacity of the building should, he thought, be at least 550 cubic feet for the smaller cows, and 1,000 cubic feet for the larger breeds. The common method, when estimating the capacity of a building, of leaving out of account any space above 16 feet was adversely criticised, and it was suggested that a more satisfactory method, in order to get a properly-proportioned building, was to require that the total number of square feet of superficial area should be not less than one-fourteenth or one-fifteenth of the total number of cubic feet in the building. For ventilation and lighting, Findlay's system was considered to be the most efficient and most simple. Various styles of lighting and ventilation were shown on the screen and discussed.

While emphasising the necessity of having stalls to fit the cows, so that the stalls could be kept free from manure, attention was called to the growing custom of grading the length of the stalls down the shed so that a suitable stall could be found for each cow.

Three points of interest, inasmuch as dairymen hold varied opinions about them, received special comment, the manure channel, feeding passage and food trough. It was generally agreed that the manure channel should be two feet wide, so as to prevent chokage, with consequent damming up of the urine; as to the most suitable depth, some dairymen preferred a shallow gutter, about five inches, while others were advocating a depth of one or even two feet, on the ground that the manure was not so likely to come in contact with the cow's quarters when she was lying down. With regard to the provision of a feeding passage in front of the cows, it might be said for it that it might save labour in feeding, and that the cows were not so liable to breathe stale air. On the other hand, if floor space was limited, it was better to give a wide passage behind the cows without a passage in front than to provide two narrow passages. A wide milking passage behind the cows was important, because then the pails could be kept clear of the dung and urine splashes. If there was no feeding passage, then the air inlets should be placed low down near the food troughs, as was the common custom in the West of Scotland.

It had been general to advocate low food troughs, the height next the cows not being more than five or six inches. Opposing this view, some dairymen said that the low food trough was responsible for bumped knees and that the higher the trough the less chance a cow had of injuring herself, and, therefore, they said a trough should be about eighteen inches in height. If, however, the trough was too high, then cows had difficulty in lying down with their heads over the trough, with the consequence that the standings had to be made longer, which was a serious fault, as it allowed too much forward movement, and the animals soiled the standings with manure after rising to feed.

An important point in byre construction, as affecting the cleanliness of the milk, was, as previously mentioned, the roof truss. Several types of roof trusses were shown on the screen.

Discussion.

Mr. T. Eaton Jones, F.R.C.V.S., Veterinary Superintendent, Liverpool, in opening the discussion, said: I must first of all thank Professor Linton for his very excellent address and demonstration, which has been full of education for the sanitarian, and will no doubt be most helpful to inspectors of cowsheds and sanitarians in giving advice whereby, at a moderate outlay, improvements in the production of milk may be effected.

The title of Professor Linton's paper is "The Hygienic Construction of Cowsheds, with special reference to the Production of Clean Milk," and I note that in his last paragraph he says, "The object of this address is to present to you what I consider are the most hygienic requirements of cowsheds about to be built for the commercial production of clean milk." But I

also note that, in another paragraph, he states that many of the existing buildings are quite unsuitable for the purpose they were originally intended to serve; so that it will be in order to consider existing cowsheds and their alterations. In my opinion, the last mentioned is of more value than the construction of new cowsheds, as, in our lifetime, existing cowsheds must greatly predominate over newly-constructed buildings.

In discussing the subject of the paper and considering the title, in my opinion, the question requires to be observed from more angles than those included in the address. In the first place, what is milk, and why is there such urgent necessity for the improvement of its cleanliness? Milk may be described as an opaque fluid drawn from the cow and supposed to contain three per cent. of fat and 8·5 per cent. of solids not fats. I say "supposed," because in some cases that have come before the notice of the public, and also in many cases that have not, in certain periods of the year, and in the morning milk, it has been found to contain not three per cent. of fat. I contend that milk, like any other form of food, should be sold according to its standard of quality and cleanliness.

The general method of the disposal of milk to the public by the producer in this country is through the agency of various large dairy companies, and it is obtained by them from the farmer at a contract price which is uniform throughout various large districts, and little attention is paid as to whether it is rich in butter-fat, and contains a small percentage of bacteria to a given quantity, or poor in butter-fat, and yields a large bacterial count to the same given quantuty.

The question therefore arises as to whether there is any inducement for the producer of milk to disturb his existing conditions so long as he is complying with the law; if he is to obtain no recompense for so doing, after having incurred perhaps considerable expense in effecting alterations, and also continuing expense in improved methods of sanitation.

In my opinion, under present conditions the alteration of existing cowsheds and the construction of new ones do not make any special appeal to the milk producer, particularly as of late years a very large number of farmers have become their own landlords, and in many cases have purchased their farms at the top of the boom, some of them undoubtedly having had to take up mortgages at a high rate of interest. Farming at present is not too flourishing, as is evidenced by the Bills before Parliament for aid, and milk producers, therefore, are often hard pushed to make ends meet, and do not view with great enthusiasm a reconstruction of their cowsheds in order to produce a highly hygienic article, when, after doing so, no recompense is obtainable in the way of higher prices, and they observe that their neighbours with old-fashioned cowsheds can obtain precisely the same price for their article.

I am not attempting to debate the points with regard to the health of the housed cattle, but would briefly say that, upon approaching the producer with regard to proposed alterations and the health of the cattle, undoubtedly the reply would be, "What has been good enough for my father, grandfather and great-grandfather is good enough for me, and I am getting as much milk per head as my neighbour with 'swagger' premises a few fields away, and until I am recompensed I do not intend to stall my cows in the dining room and milk them in the drawing room."

My remarks, of course, do not apply to the highly-graded milk, for which you are all aware special prices obtain. The sale of such milk, as far as my knowledge goes, is practically negligible. I speak of the production of ordinary commercial milk, which probably concerns well over ninety per cent. of all the milk produced as such for sale in this country. I would, therefore, suggest to this meeting and to all persons interested in the hygienic construction of cowsheds and the production of clean milk, that it be urged upon all public bodies such as corporations, county councils, the Farmers' Union, Poor Law Authorities, etc., that the first step in improving the milk supply of this country should be its sale according to quality and cleanliness.

With regard to actual construction of the cowshed, single rows, etc., are best. Ventilation and lighting may go hand in hand by constructing windows on the Sheringham valve principle at the top, with wooden "hit and miss" bottoms at a height of 10ft. 6ins. at their upper edge.

I notice that Professor Linton in his paper advocates doing away with the feeding passage in front. In that case you have the cows breathing against the wall, and that is not good for them and it is not good for the wall. In my opinion, the feeding passage is a necessity, and you cannot construct a cowshed without it. In double row cowsheds you have to have the animals either head to head or tail to tail. The head to head method is condemned because of the animals breathing each other's breath, and, besides, in all double cowsheds the width does not allow, in my opinion, of proper ventilation. When the cows are placed tail to tail, you have the other awkward business-splashing each other's quarters.

With regard to the stalls and divisions, I think the tubular iron are much the better kind. Concerning troughs, I think the height that Professor Linton advocates in the front of the manger is about right. It should not be more than about four inches, otherwise you cause discomfort to the cow. With regard to the water supply, if you are going to put a water supply in existing cowsheds, where are you going to get the water? In most of the existing cowsheds it will cost a considerable outlay in money. The usual method in my country is for the cows to be turned out to drink in the pond, or if they have a water supply laid on, they have to go to the trough.

You have to consider what the farmer thinks. It is no use telling him what to do. He is going to produce as much milk as he can with the least trouble. I am told by all the farmers I have consulted that, even when they turn the cows out in the winter time, they will lose at least ten gallons of milk by turning them out once. They say the only method of watering the cattle is to carry the water to them in buckets.

I do not say I approve of it, but that is what the farmer says.

I am surprised Professor Linton has not laid down some definite size for these manure channels. He has given you a lot of illustrations, and he told you about their being four inches high at one end and five at another. These manure channels are best observed in Holland, which I think is nearly equal to Denmark with regard to milk production. In Holland there are a very great many of these manure channels which are at least two feet high and two feet wide. I was amazed to see them—this was twenty years ago, on the occasion of the International Veterinary Convention—but I never heard of a farmer having an accident with his cattle. In fact, they say they get absolutely used to standing in their stalls, and they do not slip.

Further, with regard to this manure channel, I do not believe in any urine channel, but I do thoroughly believe in beds. You will not get any good farmer, particularly if he is on arable land, to do without bedding. He cannot sell his straw, and he would not sell it if he could; it is too valuable for manurial purposes. The channel, too, to obviate any reception pit for the urine, can have scattered in it a little chaff or peat moss. This absorbs the urine and increases the value of the manure to a very great extent, and you would be surprised how much cleaner the cows keep, even when they do not take any special precaution with regard to grooving.

There is another point, with regard to the fastening of the tail of the cow both during milking and when at rest. It sounds very simple, and perhaps absurd, but you should have your roof constructed so that you can hang a cord from the roof with a catch in it, and each cow's tail is looped in it. When she lies down the tail is picked up from the ground, and is a great aid to cleanliness. Probably a great cause of dirty milk is the swishing of the tail. If that is secured in milking and picked up when they lie down, the cows are very much cleaner.

A MEMBER asked Mr. Eaton Jones to how many cows he referred when he spoke of the loss of milk through their being turned out to drink.

Mr. EATON JONES: Fifty cows in milk, and in turning them out once a day he lost ten gallons a day.

Mr. JOHNSON (Blackburn) said one of the great difficulties he experienced in the inspection of cowsheds was that any orders or notices for repairs to defects in the structure must, under the Dairies, Cowsheds and Milkshops Order, be served on the occupier. This was, in his opinion, a great detriment to getting any repairs executed. He thought where there was a structural defect a notice to repair should be served on the owner. He thought some representation might be made to the Government from the Conference with a view to having the Dairies, Cowsheds and Milkshops Order rectified in this respect.

Mr. BEGG (Lanark), referring to the loss of ten gallons through turning cows out to water, mentioned by Mr. Eaton Jones, said it would be a pity if it were to go out that that was the experience of everybody. In his part of the country there were plenty of cows turned out every day, winter and summer. They even went to the water in winter and broke the ice with their feet, and because they had to walk a short distance there and back they suffered no inconvenience through drinking that water. Veterinary surgeons who had to do with dairy herds had to make a special study of the most economic way of dealing with them, and were convinced of the importance of giving the animals light and air—the two things they got for nothing. Some very good and cheap byres were being constructed in Ayrshire, in which the ventilation was secured by pipes put through the wall and cut off inside and outside. There should be no turning down or turning up, because the rule should be to have nothing in the byre which would hold dust.

With regard to the point whether cows should face the wall directly or have a feeding passage in front, it seemed ludicrous that people should advocate the passage in front. He could take them to twenty byres constructed the one way and twenty the other way; and where they were equal in every respect except these, they would find they got the dirty cows where there was the passage, and it was the dirtiness of the cow that affected the clean milk. If they had the ventilation inlet placed correctly, they would not get the cows breathing against the wall.

One thing they ought to make sure of was that the footpath up the centre of the byre should be at least four or five inches lower than the part near the wall. That produced a slope, and anyone walking up could see the condition of the cow's udder, besides which the cows looked better and sold better. They at once had a slope which carried away the fluid excreta, and they got very little soiling at all. He would object to the centre channel being rounded off, because with that it was not so easy to clean out perfectly with a shovel. The main thing, however, in the type of byre which had been described by Professor Linton was the ventilation. They had no light except from the roof and everything was sweet from the floor to the ceiling, and they could turn the hosepipe on for cleansing purposes.

Mr. JONES asked Professor Linton for his views with regard to the stall bay and the depth of the channel. The difficulty he found was that in a number of the small dairy farms the cowshed premises were utilised for a dual purpose—for dairy purposes and also for calving. It had been represented to him that if the depth from the stall bay to the cow bay was too deep, complications might arise, and he would like to know what Professor Linton's observations were on the most reasonable methods for dealing with that particular matter. He would also like to support what had been said with reference to the serving of notices, or placing the onus of responsibility for repairs on the owner rather than the occupier.

Mr. PARKS brought forward the question of the construction of the floor of the byre, mentioning that some weeks ago he had occasion to bring before his Council the question of the whole of the cowshed being paved. Farmer members of the Council disagreed

with that, and said the front part should be left bare, as concrete was too cold for the cows to lie on.

THE REPLY.

Professor LINTON, in reply, referring to what Mr. Eaton Jones had said, emphasised that the whole solution of the problem of clean milk, free from tubercle, lay in educating the public to demand certified milk. As the father of two children, he took the stand that parents had an obligation to fulfil in giving their children the best possible food, so he insisted on his children having certified milk. It was possible to produce certified milk and sell it at 3d. a quart dearer than ordinary milk, and make it a paying proposition. What they wanted to do was to educate the public to demand certified milk and to get the general medical practitioner to do the same.

The medical practitioner was not doing all he might do in that respect. If, in visiting the families under his care, he advised them to buy certified milk, there would soon be a demand for it. It was certainly a commercial proposition; people could sell it at a reasonable cost and make a good living out of it. With regard to the remark that there was no recompense for spending more money in providing proper buildings, the answer was that if they provided the proper buildings and produced clean milk and graded it, they would get a higher price for it.

Mr. Eaton Jones referred to the "hit and miss" windows. Personally, he had no use for them; he thought they were an abomination. If they had a system of ventilation by means of a drainpipe put in the wall, they would want nothing better, and they could not find anything more simple or more efficient. His mind was open on the question as to whether they were to have a feeding passage in front of the cows, but he was inclined to insist upon the space at the back. Probably if they were to have the Sheringham valve principle high up, they would want the feeding passage, but if they were to have the skylights and the drainpipe ventilation low down, there was no necessity for the feeding passage.

Another important point was that, if they had no feeding passage, they could keep the cows in their proper place in the stall, whereas if they had a feeding passage at the front, they could not keep the cows from going back, and they would become more dirty. With respect to the single row, this was a question of cost and labour. If they had two rows of cows under one roof, the cost was reduced, as it was much less costly to have two rows of cows standing tail to tail. Mr. Eaton Jones said if they were tail to tail they would splash each other's quarters. It either must be "some" splash or the passage must be very narrow.

On the question of the water supply, he was certain they could let cows out in the middle of the winter and let them drink icy cold water without their getting a chill. This was achieved in Scotland by the simple method of keeping the air inside the cowshed at a low temperature. Of course, if they were to turn cows out of hot and humid byres where the air was practically saturated, on a cold winter's morning to drink icy cold water, they would get chilled.

The method of watering by means of buckets had not, in his opinion, proved very satisfactory, because they had the human element to contend with, and he was strongly in favour of having a separate water pot for each animal, provided they could secure a simple and easily cleaned water pot. There was no great cost in putting these things in, because people could afford to do it and still have a reasonable return for their outlay. The size of the manure channel was a point he really could not answer, because he did not know what was the ideal size. He knew a two feet wide channel had been advocated, but he would not like to give any opinion as to what was the correct depth.

With regard to the fastening of the tails, that was done in Denmark and Holland, and it was quite the ordinary procedure. Mr. Eaton Jones referred to the loss of ten gallons per day by turning the cows out, but, as he had said, they would not get that loss if they kept the air in the byre at a low temperature. The serving of notices on occupiers instead of owners was a very vexed question. He had great sympathy with the owners at the present time, because they were taxed more than they could bear, and it was not a moot point as to who should bear the expense. In practice, he thought they would find, if the notice was served on the occupier, there was usually some arrangement between owner and occupier as to the sharing the expense of the alteration. He agreed with what Mr. Begg had said about the sloping floor of the stall, and probably the chief reason why it was popular in Scotland was that when people came to buy cows, the animals looked much bigger and better.

With regard to the rounding of the manure channel at the bottom, that might be a mistake, and he was not sure about it. One objection that had been put to him when he had advocated a channel two feet wide was that an ordinary stable shovel was not wide enough to fill the channel, and that with present-day labour the man was apt to run the shovel along carelessly, and did not properly clear out the channel. With regard to the question about concrete at the front of the stall, Professor Linton remarked that some people put rubble and chalk there, but he did not think that was necessary, as concrete was quite satisfactory, it was much easier to keep clean, and the first cost of construction and subsequent upkeep was much less than where they had to put chalk in the front part of the stall.

Clean Milk—Its Production and Protection.*

DISCUSSION ON MR. BEGG'S PAPER.

Lt.-Col. J. W. BRITTLEBANK, C.M.G., M.R.C.V.S., D.V.S.M., who was unable to be present, had forwarded the following paper to open the discussion:—

I regret, in the first place, that owing to circumstances over which I have no control it is not possible for me to be in my place to open this discussion in person, and so really make good the acceptance of the invitation extended to me. I would first of all like to congratulate Mr. Sumner on the honoured position he occupies, and am sure that no

*Paper by Mr. Hugh Begg published in last week's *Record*

worthier or more public-spirited veterinary surgeon has ever been President of this Section. To Mr. Begg I must extend my thanks for the comprehensive paper he has presented, and if I have any quarrel with him it would be that at his time of life, and after a,l his experience of these meetings, he ought to know better than to leave the opener nothing to say. (Laughter.) I have great admiration for people who write such papers, for the thoroughness of Mr. Begg's work is evident, in that no point appears to have been omitted.

I do not propose to deal with the paper in detail, for much of its matter is open to no controversy and is a reiteration of home truths which have been uttered apparently in vain for many years past.

Mr. Begg pays America the compliment of being the foremost country in the world in the production of clean milk. Personally, I think that Denmark should not be overlooked and the work of that great veterinarian Bang forgotten, but whoever deserves the credit, it must not be forgotten that, so far as this country is concerned, one of the chief obstructions to progress has been the extraordinary diversity of opinion among the so-called experts. Even to-day in a collection of veterinary surgeons it is not probable that any two men will hold the same views on this great problem, which is so intimately connected with the public health. The whole public health service is almost equally at variance; one swears by sterilisation, another advocates pasteurisation, and yet another will only have milk from tuberculin-tested stock. How, then, is any national scheme to be formulated? We have had experience, valuable in its way it is true, of patchwork or local legislation of a very limited character, but really all that has happened is to enrich the manufacturer of machinery and to increase the cost of milk to the consumer. I do not propose to enter into the economics of the question of clean milk production beyond pointing out that the diversity of opinion among the experts, and to a great extent the neglect of the huge economic question involved, has left the producer in the position of not knowing quite where he is.

I am sorry, therefore, that Mr. Begg has decided to confine himself largely to generalities and has, in his paper, decided to exclude tuberculosis. Some of us who have been working at the question for more years than we care to reflect on are of the opinion that the term clean when applied to milk should always be taken in its widest sense—for surely, however free milk may be from ordinary dirt, if it contains disease-producing organisms it cannot be clean. That some such thought holds place in the mind of the writer of the paper is shown by the plea set forth in what is practically the introduction to his subject, where he recommends the immediate re-introduction of the Tuberculosis Order. Personally, I do not believe that this Order, as we originally knew it, would carry us very far; it was at any rate a useful beginning, but I am definitely of the opinion that the keynote of the whole question of clean milk production is in the direction of well-devised and compulsory measures directed definitely to the reduction of the incidence of tuberculosis in our herds. Thirty per cent. of our dairy cattle at least are definitely tuberculous, and a considerable percentage of these are an ever-increasing menace to their fellows with whom they live in intimate contact. What possible chance of real and lasting improvement is there while such a state of affairs goes on unchecked? It would be an impertinence on my part were I, as the humble contributor to the discussion, to attempt to specify the measures necessary. A knowledge of even only the rudimentary principles of preventive medicine are sufficient to point the way, but I will venture to say in support of Mr. Begg that in the proper employment of the well-trained veterinarian in this his own field lies the true solution of this great problem. I must, however, add here, success cannot be expected without the aid of the experienced veterinary clinicians, to be found almost entirely in the ranks of the practitioners. I must here ask pardon for any digression from the lines laid down by Mr. Begg in venturing to refer to tuberculosis, but in my opinion this is the real problem.

Now as to the question of housing and clean milk. All of us, particularly those concerned intimately with the work, would like to see model housing throughout the country, but under the conditions of financial stress now prevailing, and likely to continue, what chance is there of getting farmsteads rebuilt or reconstructed? Mr. Begg states that in recent years it has been the vogue for some experts to declare that it is quite unnecessary to have up-to-date premises for the production of even certified milk. Is this quite correct? Have they not rather said that, no matter how bad the cowsheds, by attention to simple details the milk produced in them can be turned out very much cleaner, and that even in such conditions the right man could produce milk to comply with the standards laid down for certified milk? There is a vast difference between the two statements, and it will be well for us to be accurate and to refrain from distorting facts.

If model housing for cattle is to be the minimum preliminary, then we may say good-bye to any hope of improvement in this or the next generation. I repeat, we would all like to see model housing, with its consequent economy of work; but has not Mr. Begg had experience of dirty, disease-laden milk being produced in modern cow-houses of model construction? If he has not, I congratulate him and regret to say I unfortunately have had many such experiences.

I have many farmers to-day whose buildings are equipped with the very scantiest of sanitary conveniences, but who are responsible for the production of clean milk which will comply at any time with certified milk standards. You must in this, as in all other great schemes, cut your cloth according to your means, and we must try to retain a sense of proportion in our recommendations if we are to be listened to, and I have made it a practice for years, in my work with dairy farmers, to try and assess the individual with whom I have to deal before proceeding to the consideration of the conditions, which he only too frequently cannot help, under which he or she lives and works. I have long been of opinion that if all milk producers had to produce definite evidence of some sufficient scientific training in the one or other of the well-equipped, modern dairy schools before being allowed to sell milk for human consumption, half our difficulties would vanish. This is probably too much to ask, but I

do heartily support Mr. Begg in his advocacy of the education of the young and potential agriculturists in this direction.

With regard to bedding of cowsheds, I am not quite sure whether Mr. Begg advocates it or not. Personally, I am very much in favour of good, clean straw bedding, if for no other reason than that cows so bedded are more comfortable, and successful milk production is closely allied to keeping the producing animals comfortable and contented. The use of some substances, and particularly cotton shoddy, should be strictly prohibited.

Concerning the manure stead, Mr. Begg raises a very vexed question. I agree that wherever you put it it will offend the æsthetic, but we are not concerned with much beyond the sanitary, and I must confess that I believe in a well-constructed, covered manure stead in a convenient position. If it is placed too far away, there is a temptation to neglect the necessary cleaning of the cow-house or to the formation of secondary dung heaps near the cow-house. The method of removal of manure to heaps in close proximity to the fields it is intended to fertilise may be quite good on some farms, but on many farms it would be necessary to add a boat to the general farm equipment.

I fear, Mr. Chairman, that I have occupied your time sufficiently long, but I cannot conclude without saying that the reformation of the business of milk producing is an enormous problem, and one that can only be accomplished in its entirety by team work in which the bacteriologist, medical officer, veterinary surgeon, and last, and probably most important of all, the farmer participate. All have their own sphere, and it is only by the hearty co-operation of all that good results can follow.

I again thank Mr. Begg for his paper. (Applause.)

Dr. E. M. H. Milligan, M.O.H., Glossop Urban Sanitary Authority, said the point to which he wished to draw attention was the production of clean milk from the standpoint of a rural and urban medical officer of health. He trusted those present would pay a proper compliment to Mr. Begg by following out many of the suggestions which he had given. As a contribution to the discussion, he would give the Conference an analysis of the bacteriological examination of milk samples from some old-fashioned farms in his area. These farms from which the milk came were ones which Mr. Begg would absolutely condemn, being very old and of faulty construction; in fact, farms from which it would appear an altogether impossible problem to get clean milk.

However, printed rules on cards were given to every farmer in the area, and these cards were hung up in the shippons, giving pretty thoroughly the rules which Mr. Begg had laid down. It was impossible, of course, to know exactly how many of these rules were followed, but out of 56 samples taken from these old-fashioned farms the bacterial count in 77 per cent. of the cases was under 100,000. In 85 per cent. of the cases the coli were not found in 1-100 c.c. In 23 samples out of the 56 no coli were found at all. They would see, therefore, that in a great many cases it was possible to produce clean milk from an old-fashioned farm if certain rules were followed.

In regard to the method of getting the milk clean at the farm, it would be apparent that if there were some means of getting the milk rapidly cooled, stored in ice, or transported in ice, with proper railway vans in which they could have cold storage in the same way as in the transport of fish, the milk could be delivered in a very much better state in the matter of the number of diseased germs. One thing with which he was sure they would agree with him was that if they asked the farmer to do too much in the way of construction, they would soon have the price of milk up to such an extent that the poor people in the big cities would be quite unable to pay for it, and thus their object would be defeated.

His object was to ask, "Can we produce clean milk on an ordinary farm without sending up the price?" He believed they could. Another point they should not forget was that when the milk was delivered in the home the health authority ought to see that it was not contaminated. That could be done through the Health Visiting Staff and with means which were at disposal. Altogether, from Mr. Begg's paper and from what Colonel Brittlebank had said, they would see that this question of milk production was a complicated one. He did not propose to touch the question of tuberculosis, because that was a different question which would take many hours to discuss. But did they not think they might get over that by having a new strain of cattle introduced into this country? ("Hear, hear.")

Dr. Moore, M.O.H., Huddersfield, said that, like everybody else, he recognised that the best milk was pure raw milk. He wished rather to insist upon that in the first instance, but with their permission he was going to ask a plain, simple question: How long will it be before we can hope to have in this country a supply of clean raw milk? ("Hear, hear.") From the point of view of public health, that was the beginning and end of the problem, and he would beg of them never to lose sight of that. In Mr. Begg's very comprehensive and valuable paper (which contained only one new thing to him) he explained at the beginning the almost inevitable difficulties which lie in the path of those who wish to secure a supply of clean raw milk.

All interested in this subject knew of the very strenuous efforts which had been made, not uniformly, throughout the country, and, for example, in Manchester and Birmingham, for a period of thirty years, to secure a safe supply of raw milk for the people. They knew that at least after twenty-five years of the most active efforts the milk supply of Manchester to-day was still in a very unsatisfactory condition, being, in fact, very little better than in places where less strenuous efforts had been made. These considerations were of the greatest importance. Mr. Begg pointed out that in many parts of the United States the milk consumption was double that of Great Britain, because of the better and more reliable milk. In point of fact it was not only double but four times as much as in Great Britain. Here our consumption was ·24 of a pint per day, and in the United States it was a pint.

This enormously increased consumption in the United States had been secured, not by obtaining clean raw milk, but by legislation which required the milk to be either pure raw milk or pasteurised, and over 90 per cent. of the milk consumed in the States was pasteurised. On this point they might reflect for a moment how great a boon it would be to farmers in this country if men in the

position of medical officers were able to "boost" their milk as being of high quality. The Irish Parliament was introducing legislation requiring all creamy milk to be pasteurised. They were not doing that exclusively in the interests of public health, but Ireland was a pastoral country, and it was being done, and very wisely done, from an economic point of view.

There was no doubt they would succeed. When any of them went into a wholesale butter market they knew which butter commanded the highest price. Danish butter commanded, wholesale, 2d. per lb. more than best English farm butter. They knew why—because it was all produced from pasteurised milk. It was a perfectly simple and reasonable proposition to put before our own legislators that all the milk sold for human consumption must be either safe, pure, raw milk, or in the alternative pasteurised.

Dr. EVANS, M.O.H., Swansea, who congratulated Mr. Begg and Colonel Brittlebank on their very instructive papers, pointed out that Mr. Begg had not mentioned that one requirement for clean milk was that all the utensils used in the dairy should be steamed.

Mr. BEGG explained that for reasons of time this was a part of his paper he had not read.

Dr. EVANS said the steaming of utensils was a common omission on farms, and there was no reason why it should be omitted, as it was a simple and inexpensive procedure. Steamers were to be obtained in almost every town, and they did not cost much. He did not see the necessity of Mr. Begg saying that cows should be groomed an hour before milking. The proper grooming for the production of clean milk was wet grooming, and it would be a very difficult matter for a farmer to bring his cows in an hour before milking. There was no necessity for it. He emphasised that covered pails were very essential in clean milk production, and stated that the town of Barry, in South Wales, had obtained powers to enforce the usage of covered milking pails upon all farms in their area.

With regard to cooling, Mr. Begg had pointed out the chief defect in the cooling of milk. The farmer cooled his milk perhaps over-night and left it till the next morning without looking after it. It was important to remember that once milk was cooled it was essential it should be kept cool in the way Mr. Begg had described. He did not, however, see the necessity for putting the vessel in a hole dug in the ground. The proper place to put it was under the cooler or in a container of any sort, with water running into the container where the churn was kept. Dr. Evans, in conclusion, urged the great value of spring water on a farm, and suggested that farmers would find great utility in developing such sources of supply.

Dr. WHITEHEAD, M.O.H., Wigan, said he quite agreed with all that Mr. Begg had said in his very able paper with regard to the precautions taken for the cleanliness of milk. He submitted, however, that it was impossible to produce a safe milk without some treatment in addition to those precautions. There were two reasons, the first being the health of the cow, and the difficulty there was in being absolutely sure that the cow was in a healthy condition. He had seen cows that had been milked for considerable periods and on being slaughtered were found to be suffering from tuberculosis of the lungs and with tubercular foci in the udder that had not been detected, although there had been frequent examinations during lifetime. Probably many of them had encountered the same thing where the animals had been apparently normal and yet showed serious signs of disease on post mortem. In all those cases tubercle bacilli must have been going into the milk.

Then there was the state of health of the milker. Mr. Begg said no milker should be suffering from infectious disease, but that was something it was very difficult to control. A happening in his own district illustrated this. There was an outbreak of para-typhoid B., eight cases in different parts of the town, and he discovered they all had the same milk supply, which came from a district outside the town. Looking up the name of the farmer, he discovered also that this man had been in hospital with typhoid four years previously, and examining the chart, he drew his own conclusions as to the type of typhoid it was.

He went to the farm and saw the man, who stated that when he had the typhoid he was in hospital a month. On being questioend the man said one of his daughters who helped in the milking had for about a month been recovering from influenza, that two other members of the household were not very well, and that he himself was milking and carrying out the milk. On further investigation he found that three of the farmer's children, grown-up girls, helped with the milking, and that all these cases on examination gave positive reaction of para-typhoid B., including the man himself, although he was perfectly well.

That was a type of case that no amount of supervision could control. In that case if that milk had been pasteurised there would have been no fear of an attack of typhoid from the milk. It was all very well to have these precautions, but who was to see that they were carried out ? They must get rid of the personal element and see that the milk was safe to drink. That was all with which they were concerned.

Alderman NEAL, London, asked if it would be possible to come to a conclusion as a result of that paper. He felt confusion was worse confounded from what they had heard.

The PRESIDENT: I am hoping to receive a resolution.

MR. BEGG'S REPLY.

Mr. BEGG, replying to the discussion, said that although his paper had been a long one, yet it was evidently exposed to the criticism that he had failed to deal with certain important aspects of the question. He was obliged to Colonel Brittlebank for his leniency, because usually he did not spare one. On past occasions they had not always seen eye to eye, but had maintained the best of friendship, and on this occasion the Colonel had treated him with a soft hand.

With regard to the Tuberculosis Order, Colonel Brittlebank was of opinion that not a great deal of good would result from its operation in the matter of making the milk supplies better. He himself was distinctly opposed to that view. The Tuberculosis Order was a lever by which the infectious animal could be turned out, and there had been cases where they had been at once turned out.

Obviously some of them would sooner or later have been detected or died, but with the compelling powers of the Tuberculosis Order they could take out the gross distributors of death.

Colonel Brittlebank had spoken of his (the speaker) having some distortion of view with regard to the production of milk in dirty premises. He had just the same view as Colonel Brittlebank, but he did think that too much had been made of the possibility of producing certified milk in dirty premises. He had had a good deal of experience of these dirty farms, and he knew that when the workers, who had to get up at three o'clock in the morning, were a little late, and had to have the milk out by a certain time to catch the train, they could not possibly carry out the same precautions as when they did the work with plenty of time to spare. Some of them did not even work with decent lamps, but with lamps that carbonised the whole atmosphere, and yet they were led to believe that certified milk could be produced under conditions such as those. He did not believe it. As a practitioner he had been there early in the morning and had seen what went on.

With regard to the straw bed, the question was, was it really needed? In his tests he gave less marks to the man who used bedding. It was undoubtedly proved that any kind of bedding, no matter how clean it was, had bacterial content; that was absolutely certain. Under the inspections under the old Ministry of Food they were instructed to deduct marks if bedding was kept in the cowshed during the process of milking. With regard to covered manure sites, they might be very plentiful in England, but they were not in Scotland. He admitted that a covered site was better, but in his observations he was dealing with the outflow sites, which were so common.

The remarks of Dr. Milligan and his figures were those produced by any laboratory that was taking any interest at all in the bacterial content of milk. It was very good of him to show that in his very bad type of byre they had been able to get such results, but he would like Dr. Milligan to continue his inspections at three o'clock in the morning and to pay unexpected visits, and to see whether he would get the same results out of these faulty byres.

Could they produce clean milk in bad places without increasing the price? He thought they could, and if they went to the length of saying that inferior supplies should not be allowed to have a market at all, it would be surprising to find how quickly use became second nature and improvements were effected. For the purpose of a simple test he would advise anyone to put down in the passageways of cowsheds sheets of paper and to note the thousands of spots which would result from urination of the cows, and to ask how it could be expected that there should be freedom from coli in those cases in which proper safeguards were not taken with the milk.

With regard to the bringing in of a certain new strain of cattle to get rid of tuberculosis, it was a medical opinion that had been expressed. If they were to start with a new, clean herd, it would be head over heels with infection in no time, far more than the herds that were here already.

Dr. Moore asked how long it would be before clean raw milk was available. That was the thing they were all out for. He agreed with those medical men who had spoken who said they were in favour of pasteurisation, because it was needed in order to render infected milk suitable for consumption by human beings who were susceptible. But he was a veterinary surgeon, who realised how much the profession could do, and it was up to him to preach the gospel of clean milk production. He did not think they were doing it sufficiently, and in his view provincial veterinary surgeons ought not to hesitate to give lectures to people and practical demonstrations in order to get others into line and give the farming community a chance of educating themselves.

A wonderful amount could be done in that way. The cities of Edinburgh and Glasgow were greatly indebted to the county of Lanark for the advances that had taken place in the production of clean milk in the last twenty years. The county of Lanark was not unwilling to pay more and more money if the public health was going to be the better for it. They had done this for many years, and he was not aware that any other county in Great Britain had ever begun it.

A MEMBER: Oh, yes.

Mr. BEGG: Which one? I have never heard of it.

The MEMBER: Towns have.

Mr. BEGG: I did not mention towns. Towns have done inestimable work and have helped the people who produce milk in the country; but what I say is that Lanarkshire, as a county, although it does not consume its milk to a great extent, has carried out milk inspection for twenty years, and the big municipalities have got the benefit of it. It is to the credit of the Council of that county that twenty years ago they saw fit to spend £500 to £800 annually on these matters while others were standing still.

He agreed with all that had been said with regard to pasteurisation so long as milk remained in a dangerous condition. It was very good of Dr. Evans to say the paper had been helpful, and those who read it in full would see that he dealt with the subject of steaming and washing, and so on. He understood Dr. Evans to say that covered milk pails were being used throughout his district.

Dr. EVANS said what he said was that they could not get the use of covered milk pails enforced except by regulation. He had tried to enforce it in his own district by education, but the town of Barry recently secured regulations empowering them to enforce the use of the covered milk pail, and that was now being done.

Mr. BEGG thought the covered milk pail could be easily introduced into England, but he pointed out that their use was more difficult in the case of herds which had short teats. With regard to the remarks of the Medical Officer of Wigan, they were scarcely relevant to his paper.

Dr. MOORE said Mr. Begg had not favoured them with his estimate of the period of time that would be necessary before they got, through the work of veterinary inspectors, a safe milk supply. It was a very important thing, and the crux of the question.

Mr. BEGG replied that the date would depend upon what medical men and others cared to do in getting on with the propaganda. ("Hear, hear.") Medical officers had done a great deal to stop the use of milk by showing in the first instance that it was dangerous, some of them having

been apostles in regard to that. Others had not yet taken up the question of graded milk, although a number of them had admitted that they could have a big number of clients using graded milk. He thought medical men could hurry on the date far better than veterinary surgeons.

Dr. MOORE: Notwithstanding, I would be very much obliged to Mr. Begg if he would name a period.

A VOICE: One hundred years.

The PRESIDENT asked if the Conference desired to pass any resolution?

Alderman NEAL: I think under the circumstances we might pass a resolution saying that when and so soon as all these regulations are adopted the price of milk should be 2s. 6d. a pint.

The PRESIDENT: Is it the wish that we should have a resolution that all milk for sale for public purposes should be pasteurised before being offered for sale? (Cries of "No.")

Dr. MOORE pointed out that at the Sanitary Congress held at Folkestone two years ago a resolution was adopted that all milk sold for human consumption should be either pure and safe or pasteurised.

A MEMBER suggested it might be in order to move a resolution with regard to the bi-annual inspection of dairy cattle by authorities. This took place in some districts, and was very helpful.

The PRESIDENT said he was afraid they could not discuss whether it was advisable, and the Conference agreed not to pass any resolution on the subject.

Anthrax.—Mr. Buxton recently stated in the Commons that he was aware that there was an increase of 40 per cent. in the number of cases of anthrax in 1923 as compared with 1922, but there had been no increase in the first half of 1924 as compared with 1923. What had happened was that the increase over 1922 had been maintained. The incidence of anthrax was, however, low, the total number of animals affected throughout the country in 1923 numbering only 844. The eradication of anthrax was a difficult problem, inasmuch as investigation went to show that about 80 per cent. of cases in this country occurred on farms on which there had been no previous outbreak, and that infection had been brought to the farm by foodstuffs or manure, etc., from abroad. There was also reason to believe that foodstuffs became infected during transit in countries of origin. It would hardly be practicable to attempt here the disinfection of the very large quantities of materials involved even if this could be done without damaging them. The Ministry had sought the co-operation of shipping companies with a view to keeping foodstuffs, skins, and bone manure separate on the voyage. This would be beneficial in minimizing risks of infection, but only partly met the complicated and difficult problem Mr. Henderson on another question said that the Home Office had throughout been fully alive to the desirability of arranging, if practicable, for disinfection in the country of export. With this object in view, in 1918 representations were made to the Government of India, from which country the greater part of the infected material came. The Indian Government, however, had not seen its way to arrange for disinfection in India, and therefore the British Government was thrown back on the alternative of providing for disinfection at the port of entry in this country. At Liverpool the material was conveyed direct from the ship to the disinfecting station, so that the risk to dock workers was reduced to a minimum.

The Veterinary Record.

6th September, 1924.

OUR PRESIDENT.

"Good wine needs no bush," and consequently it might seem a piece of supererogation to extol the merits of our President. But we are not without gratitude. We take also a certain pride in the fact that the man whom we do our best to honour to-day is just one of ourselves and yet one who has attained his present position as a result of hard work, unbounded energy, and his ability for making lasting friendships. His value to our Association cannot be measured in words. His presidency has occurred at a time when it was very important that our senior officer should be a man with a wide knowledge of men, and of our profession and its needs, a man who would use himself unsparingly to attain the objects we have in view; a man who both by precept and example would work for the unity and consolidation of our profession through the medium of the Association. Mr. Dawes fulfilled all these requirements, and added not only a capacity for business, but a wonderful tact in the management of the many meetings over which he has presided. The result has been that our machinery has run smoothly and expeditiously, and the general efficiency of the Association has benefitted. His position has been no sinecure; he is not the kind of man who would be content to remain a mere figure-head. He has attended 38 committee meetings in London, and has also attended meetings in Scotland, to say nothing of his many and frequent visits to the Divisions. This coming week sees the consummation of his work for his fellows when he takes the chair at our Congress, and we take the opportunity now, before he retires from office amidst the congratulations of his many friends, of expressing our sincere and very deep gratitude to him. In doing so we know that we are speaking for all our members in all parts of the world, for even those who have not been privileged to meet Mr. Dawes appreciate what he has done and is doing for *them*, as well as those with whom he comes in closer personal contact. The portrait of our President, which we present to our readers this week, will, we hope, be kept as a memorial to remind present and future members of his unsparing and unselfish work, which we so gratefully acknowledge to-day, and at the same time bring a little of his cheerful and welcome presence into the homes of us all.

Debate.

Most of us who are able will have, by this time, started North or commenced preparations for so doing. It is not saying too much to state that every veterinary surgeon, whether he be attending our Annual Congress at Aberdeen or not, wishes it every possible success.

A brief glance at the programme of the Congress cannot fail to convince even the most sceptical that the papers to be presented are of a very high order, all showing evidence of long and careful thought and individual research.

Most spheres of veterinary science appear to have been approached, and no member can fail to be beenly interested and informed on one or other of the subjects presented.

It is to be hoped that the authors who have spent so much time and trouble in preparing their papers will not be disappointed with the discussions which should be stimulated.

No better opportunity for the exchange of ideas or for the advancement of knowledge can be conceived than this great annual gathering of British veterinary surgeons. The main object of every lecturer is to stimulate debate. If publicity only is desired, then this could be obtained in a much larger measure by publication in a journal.

Let us see that the debates are of as high an order as the papers presented; and in this way alone show our appreciation of the efforts of the essayists.

CLINICAL AND CASE REPORTS.

Luxation of the Patella in Horses.

By G. J. Roberts, M.R.C.V.S., Pwllheli.

I did not think that this condition was rare until I met a veterinary surgeon in an extensive practice in Shropshire, and learned that he had never seen a case. It usually occurs in two or three-year-olds in poor condition, and I generally see two or three cases a year on an average. It is easily reduced, and treatment is very simple in most cases, consisting of keeping the horse quiet for an hour, with the affected leg forward, and applying a sharp blister to swell the tissues around the joint. This year, however, I have seen the following two interesting cases:—

I. A three-year-old shire filly, working on a very hilly farm, was found with the patella out, and the usual treatment proved of no avail. She was, therefore, put in slings with a sideline on, and the sideline pulled short to a collar on the filly's neck, and the leg was blistered again, and the animal left in the slings for three weeks, when a complete cure was effected. She has been working hard since March last without a recurrence.

II. A half-bred mare with foal at foot had a very severe attack of heart disease (or what I called heart disease). The temperature was 102·6, the pulse, or rather heart-beats, 60, and these could be heard about ten yards away. The animal looked very dull, but not very ill. She would not feed. I called again in twelve hours, to find the animal much better, temperature being normal, and the sound could not be heard from the door. The heart-beat, however, was very irregular, perhaps through an overdose of digitalis, and the owner told me that the mare had fractured her leg somehow. On examination I found that she had her patella out. I had it reduced, but I could not blister owing to the foal. I therefore attached a sideline and injected saline solution under the skin with a hypodermic syringe, and kept her quiet for an hour. She has shown no sign of the trouble since.

I should have said that the mare was seven years old, in good condition, and had not worked since foaling in May. The cause of the heart attack or of the luxation is a mystery to me, and any comment on the case would be appreciated. The mare started feeding in about six hours after I saw her, and has done well since; she is out in the field with her foal none the worse to all appearances. The heart-beats 48 to the minute.

I could not auscultate her chest the first time I saw her, as I could hear nothing but the heart-beat everywhere. The sound was very similar, only slower and stronger, to the sound heard from the heart of cattle in the latter stages of red-water.

Broken Back in a Blood Horse.

By L. Auchterlonie, M.R.C.V.S., Nottingham.

I do not know whether or not I am right in saying that a broken back in a blood horse running in a flat race is remarkable, but it seems to me to be worth recording.

A four-year-old horse, Ascham, running in the last race at Colwick Park, on August 12th, suddenly fell, and was unable to rise, giving the impression that his back had gone.

The jockey's report was that the horse jerked (on the straight), recovered himself, then seemed to run out, and suddenly went down. A very bad fracture of the last lumbar vertebra was found, involving the canal and processes. Muscular action, which caused the injury, must have been tremendous, as there is no real comparison between the case of a horse thrown for operation with the same result and of this animal, which was quite unrestrained.

DIVISIONAL REPORT.

Midland Counties Veterinary Medical Association.*

MEETING OF COUNCIL. A meeting of the Council of this Association was held at Holliday Street Wharf, Birmingham, on Wednesday, July 23rd, Mr. L. W. Heelis (President) occupying the chair. There were also present Messrs. DeVine, Pemberton, Forsyth, W. H. Brooke, Slipper, H. Tudor Hughes, and H. J. Dawes (Hon. Secretary).

Visit to Weybridge. A letter was received from Sir Stewart Stockman, of the Ministry of Agriculture, with reference to the proposed visit of the Association to Weybridge in October, and on the suggestion of the Hon. Secretary, a committee, consisting of the President, Mr. DeVine, Mr. Brooke and the Hon. Secretary, was appointed to make the necessary arrangements.

Insurance. The action of the Hon. Secretary in insuring the two animals to be operated upon at the assembly of the Association was confirmed.

A meeting of the Association was then held. Mr. Heelis again presided, and the other members in attendance were Messrs. H. W. Steele Bodger (Tamworth), Brennan DeVine (Birmingham), G. Vernon Tyerman (Ludlow), A. B. Forsyth (Cannock), F. Chambers (Wolverhampton), H. Tudor Hughes (Oswestry), J. Robertson, senior (Stourbridge), Chas. Haywood (Leicester), T. H. Hobson (Leicester), W. E. Ison (Atherstone), J. R. Barker (Hereford), A. W. Findlay (Kineton, Warwick), F. B. O. Taylor (Redditch), Geo. F. Banham (Stratford-on-Avon), H. H. Pemberton (Bridgnorth), J. W. Conchie (Kidderminster), G. H. Barber (Brewood), Lawrence C. Tipper (Birmingham), C. J. Clifford (Shifnal), C. S. Hunting (Loughborough), J. C. DeVille (Uttoxeter), Colonel T. Marriott (Birmingham), H. J. Dawes, Hon. Secretary (West Bromwich), H. W. Dawes (West Bromwich), W. H. Brooke (Handsworth), H. Fairer (Derby), H. Yeomans (Smethwick), R. J. Lake (Ashby-de-la-Zouch), S. M. Woodward (Birmingham), H. A. Turner (Derby), T. D. M. Martin (Wellington), R. P. Holmes (Birmingham), Wm. White (Birmingham), W. F. Aston (Derby), W. Beddard (Wolverhampton), J. Whyte (Tenbury), R. Watts (Nuneaton).

Letters of apology were received from the following: Sir Gilbert Barling, Major F. T. G. Hobday, Messrs. A. A. Forsyth, Forwell, J. R. Carless (Ludlow), Phillips, W. Dale, W. J. Dale, R. Hughes, Maguire, Burchnall, Hall, Prince, J. Martin, J. Martin, junr., Parsons, Ringer, Reynolds, W. Trigger, and others.

The visitors present included Captain Gunning (Burton-on-Trent), Messrs. F. R. Hale (London), D. J. Anthony (Brierley Hill), J. Robertson, junr. (Stourbridge), L. Jordan (West Bromwich), and H. W. Griffiths (Birmingham).

Mr. Taylor nominated for membership: Mr. T. N. Gold (Redditch), and the following were nominated by the Hon. Secretary: Messrs. Geo. Boulton (Sandbach), D. J. Anthony (Brierley Hill), and H. W. Griffiths (Borstal Heath).

MR. TRIGGER'S RESIGNATION. The Hon. Secretary read the following letter from Mr. Robert C. Trigger:—

> Dear Mr. Dawes,—Your kind letter written on behalf of the Midlands Veterinary Association, conveying in such kind expressions hopes for my better health, and also expressions of regret at my resignation from the Council of the Royal College of Veterinary Surgeons, gave me great pleasure, and I heartily thank you for conveying same to me.
>
> With regard to health, I am certainly stronger, and entertain great hopes that I may yet again some day put in an attendance, if only a short one, at one or more of your meetings. I must thank the Midlands Association especially for the confidence they reposed in me, and taking me at least very largely on trust 34 years ago, and returning me to the Council of the R.C.V.S. I feel that I may hope that I have at least justified that trust by the fact that they have never varied from that trust, but in the several periodical elections in which we have since taken part, and in which you personally have taken so active a part, they have always placed me somewhere at least near the head of the poll. Whilst my retirement from the Council of the R.C.V.S. is a great regret to me, entailed as it is by conditions of health, it is a joy to me that the Midlands are now far more strongly represented on that body than ever before, and have two very excellent representatives. I had seen Mr. Trevor Spencer attain a prominent position on that body, and although I was not able to attend after my highly valued friend Richard Hughes was appointed, I know full well that he will give added weight to your present representative. In my idea they are typical of the class of men required on the Council, practitioners with advanced and sound ideas, and men who have proved that they will maintain the dignity of our noble profession.
>
> I again thank, through you, the Midlands Veterinary Association for so many years of unvarying kindness.—ROBERT C. TRIGGER.

ABERDEEN CONGRESS. The HON. SECRETARY also reported that Mr. Livesey, General Secretary of the National Veterinary Association, had apologised for his absence from the meeting, and asked him to make the following announcements in connection with the Congress at Aberdeen. The railway companies were anxious to know how and when members were going to Aberdeen, and Mr. Livesey wanted members to write to him and say (1) on which day they proposed to go, and (2) by what train, day or night. He could arrange for carriages on the Scotch mail to be reserved, and they could all travel together. Arrangements could be made if the Midland members met at Crewe for a special coach to be reserved for them on the L. M. and S. Railway, as the company were anxious for them to have a comfortable and pleasant journey. If any wanted to go by the night train and get sleepers, would they please write to Mr. Livesey? Members going by the East Coast route from the Midlands

*Received on August 11th.

should join at York. Would members please apply early for railway vouchers for the fare concession? Mr. Livesey wished him (Mr. Dawes) to do all he could to get as many of the Midland Division to go to the Congress, and he would try and find locums if they were wanted.

INSPECTION FEES. Mr. CONCHIE enquired whether anything had been done in the direction of fixing uniform fees to be charged for examination of cows under the milk grading scheme.

The HON. SECRETARY replied that the National Association had only just taken over the duties of the National Society of Veterinary Inspectors, and was not yet in working order, but the matter was down for consideration. The Association was trying to get uniform fees for the whole country, and had been in touch with the County Councils' Association, who, however, did not seem very anxious to do anything in the matter. Circulars were being sent to the various divisions with a view of obtaining information on which the National Association could take action. He suggested that Mr. Conchie should leave the matter in his hands, and he would bring it before the National at its next meeting and let Mr. Conchie know the result.

SURGICAL DEMONSTRATIONS BY MR. REYNOLDS.

Mr. E. BRAYLEY REYNOLDS (Newmarket) then gave surgical demonstrations on (a) scrotal hernia, (b) poll-evil. Subsequently, when answering questions by several members, he said he would advise that the packing should be taken from the wound in the poll-evil case on the following day, because by then there would be no recurrence of hæmorrhage, or at least none to speak of, and all the blood clot could be removed. The sooner this was done the better, for, although with the dressing (eupad) that had been applied, there would be practically no risk of infection, he would not assert that there would be absolute sterility. Irrigation should be started immediately. No drainage tube could be of any use, nor was one necessary. He emphasised the necessity of concentrating all one's care and trouble in the after treatment of a case of poll-evil into the first week's dressing after the operation; and principally to that part of the wound farthest from the head. There was sure to be some subsequent suppuration, but this was not to be feared. As regards turning in of the skin, he had not noticed this after operations for poll-evil. It was, however, a common occurrence following operations for fistulous withers, also following any wound where the skin was freed from the underlying tissues, and especially those in which the underlying tissues had been freely removed. If, when operating, one did not remove tissue too close under the skin, no turning in would result. It was not necessary to remove tissue that was simply new fibrous connective, or inflammatory, tissue. This would all subside after healing of the wound. Another question had reference to the course of infection in cases of poll-evil and fistulous withers occurring concurrently or following one another in the same animal. Professor Reynolds expressed the opinion that infection did not travel along the lymphatics as had been suggested. He had dealt with this point rather fully, and had expressed a not-generally-accepted view in a paper read before the National at Edinburgh in 1920. He had been most extraordinarily surprised and disappointed that it was not criticised during the following discussion. The view he then expressed was that the conditions, poll-evil and fistulous withers, other than those cases which arose from direct infection from external wounding in the respective parts, arose as a bursitis of the supra-atloid bursa in the case of the one, and the supra-spinous bursa in the case of the other. The primary bursitis might be the result of bruising or systemic in origin, as occurred in some bacterial diseases. In cases arising from the former cause, and in those arising from the latter, if the causal organism were a non-pyogenic one, the primary bursitis might subside and the trouble disappear. He was sure that most of the members present had had cases of what they thought were poll-evil, to which they had applied blisters perhaps, and given instructions that the animal was to be fed out of a manger and not allowed to put its head down, and that eventually the trouble had subsided without abscess formation, and they had pronounced the animal cured. On the other hand, if, while the primary bursitis was in existence, either a chance pyogenic organism circulating in the animal's blood should come to rest in the inflamed bursa, or the animal itself become affected with some bacterial infection, the causal organism being a pyogenic bacterium, then a suppurative bursitis would be likely to occur, and the typical lesions present themselves. In some cases, of course, the primary bursitis might be a suppurative bursitis, as instanced by those cases occurring in an animal immediately subsequent to an attack of strangles.

With reference to the operation for scrotal hernia, Mr. Reynolds was asked as to the utility of Professor Williams' method of applying a huge wooden clamp over the scrotum. He replied that, although he very strongly deprecated the placing of the clamp as high up the cord as possible, he thought the method referred to went to the other extreme, and that the clamp could not be put sufficiently high if the scrotum were not opened.

Mr. TUDOR HUGHES stated that when he was on remount duty in the United States he had a great many cases of poll-evil and fistulous withers, and attributed them to the fact that the horses were bruised in the crushes. The same operation as Mr. Reynolds had demonstrated was performed, the instruments fancied by his (Mr. Hughes') assistant being those of Dr. Loquair, of Kansas City. When he discussed the matter at a veterinary hospital in France with his colleague, the late Major James Blakeway, the latter said he found the best plan was to split down so as to have a view of what had to be done. He followed the ligamentum nuchæ down, and divided it through sound tissue at the lower part first; for, as long as it was left attached to the occiput, the ligamentum nuchæ was under tension all the time. Mr. Hughes invited Mr. Reynolds' opinion as to

dealing with a hernia in the case of a gelding which had developed it subsequent to castration.

Dealing with Mr. Hughes' first point, Mr. Reynolds contended that if the ligament was left attached to the occiput and severed at the lower extremity of the operation area first, then, even if it were severed through sound tissue, the lower end receded three or four inches, making a deep pocket, in which pus and organisms from the top of the wound would collect. To obviate this grave defect, he first severed the ligament at its attachment to the occiput, so allowing it to recede as far as it would. He then freed the ligament down the neck until he was sure he was in sound tissue before again cutting it transversely. If done in this way, it would be found that the lower end of the ligament receded very little further, and there was no pocketing down into the muscles of the neck.

With reference to hernia in a gelding, he thought that if the animal had not suffered from hernia before it was castrated, it would be found that it was not a true hernia, in that it contained no abdominal viscus, but that it was a persistence of the testicular sac containing fluid only. In either case, however, he would proceed in the same way. It would be found that the absence of a testicle rendered the incising of the scrotum and freeing of the sac more difficult.

The adhesion of the sac to the scrotum at the site of the incision made at the time of castration added to the difficulty. He himself made an elliptical incision around the castration scar, and dissected down until he came to the tunics, which he then freed as he had done in the operation that afternoon, and applied a clamp similarly. Persistence of the testicular sac was quite common in the mule, and in order to avoid it castrators of their animals made a point of removing a considerable portion of the sac at the time of castration.

The PRESIDENT proposed a hearty vote of thanks to Mr. Reynolds for his attendance and demonstration, to Mr. DeVine and the Birmingham Highways Committee for placing their yard and men at the disposal of the Association, and also to the members who had provided subjects for operation.

In seconding, the HON. SECRETARY gave notice to propose at the next meeting that Mr. Reynolds be made an honorary associate of the Association in recognition of his many services to it.

The proposition was carried with acclamation, and Mr. REYNOLDS replied that, as a Midland man, he always had great pleasure in attending meetings of the Midland Association.

The President was also thanked for his conduct of the meeting.

Mr. WHYTE exhibited a specimen of a cartilaginous tumour removed from a cow's leg.

The members afterwards had tea together at the Grand Hotel.

H. J. DAWES, F.R.C.V.S.,
Hon. Secretary.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest in these columns

Sept. 8-15—N.V.M.A. Annual Congress at Aberdeen.

A welcome visitor to the office last week was Major Eustace Montgomery, just home from South America, where he has been studying the conditions of the meat export trade on behalf of the East African Government.

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Our readers will be interested to learn that Mr. Francis Barraud, the painter of the well-known picture, "His Master's Voice," who died on August 29th, was the painter of the two portraits in the Council Room of the R.C.V.S. of Principal James McCall and Professor J. Murphy. One of Mr. Barraud's pictures, "An Encore too many," was purchased for the Walker Art Gallery, Liverpool, by the City Corporation.

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By the time this issue reaches its many destinations our Conference at Aberdeen will have commenced. It is to be hoped, indeed we expect, that this year's meeting will, from the point of view of attendance, place all previous meetings in the background.

As has been stated in these columns, the local Committee is working hard to make everything a success, and we feel sure that their efforts will be justly rewarded.

Every member of this excellent Committee deserves the grateful thanks of us all. Few know the amount of time, to say nothing of expense, which is expended by these great-hearted men.

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We have to hand the August issue of the *Journal of the American Veterinary Medical Association*, and it is interesting to note that our confrères "across the pond" have just concluded their annual conference at Des Moines.

It is of interest to note that during the two sessions there are no less than nine papers on subjects relating to general practice and fourteen demonstrations.

We shall look forward with interest to the reading of the discussions which will have taken place on these important subjects.

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The following remarkable complication of nationality is reported in the same issue of the *Journal*:—"A mixed court recently tried the first case of violation of the Evanston (3) dog muzzling ordinance. An English bulldog, owned by a Swede, attacked a Chinese Chow, owned by a German. A police officer (originally from Luxemburg) made the arrest, and an Irish attorney prosecuted the case before an Austrian-born justice of the peace. The defendant was fined five American dollars when it was established that the bulldog was unmuzzled. A Pennsylvania Dutch reporter chronicled the proceedings, according to the report."

A Tribute and an Appeal.

"One of the many unfortunate results of the builders' strike is the consequent delay in the completion of the new laboratories for research in animal diseases which are being built at the Royal Veterinary College, Camden Town, and of which H.R.H. the Duke of Connaught laid the foundation stone last May. The governors of the college had planned to have the buildings completed and the research staff installed and at work by November. It is a thousand pities that this much-needed work should be delayed. In spite of the fact that the studs, herds, and flocks in England are of greater value and importance than those of any other country in the world, no country has so shamefully neglected its veterinary profession. This small and poor profession has had literally to struggle for its education for years. It has received very little financial support either from the Government or the public. We, an animal-loving people, have done almost nothing to reduce the untold suffering and distress amongst our animals from diseases that could undoubtedly be prevented partially or entirely. The veterinary profession of Great Britain has, in spite of its very retricted opportunities for a proper education, in spite of no organised research work in animal pathology. produced many able men who have worked untiringly and with widely recognised distinction in their effort to raise the standard of their profession and increase its knowledge. Their numbers and their proficiency would have been far greater if they could have had proper facilities for education and research.

"The Government, on the advice of Sir Robert Sanders (Minister of Agriculture in the late Administration), have found the great bulk, but not all, of the funds necessary for the erection and equipment of the new research laboratories. But the governors are faced with the problem of having to find funds with which to rebuild nearly the whole of the college. Badly and inconveniently constructed some 150 years ago, the old buildings have completely worn out, and can no longer be patched up. To rebuild the college is a serious but absolutely essential undertaking. Without proper provision the veterinary profession cannot be recruited with highly-trained men capable of safeguarding the health of our huge and very valuable animal population, of undertaking research work, manning the Army Veterinary Corps, and supplying veterinary officers on the staffs of the big municipalities. It is to be hoped that there will be no grudging on the part of those who should find the necessary money both for the required buildings and their equipment, and also to provide sufficient funds to pay salaries that will not only attract but retain the very best brains as professors in the college and research workers in the laboratories. Education and research must proceed hand in hand, each helping the other."—*Horse and Hound*.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Veterinary Surgeons and Jury Service.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I thoroughly agree with Mr. W. M. Scott's letter regarding the veterinary surgeon being exempted from serving on juries, and I also agree that the most important of the "two morals" is to have a veterinary officer appointed to the Ministry of Health. That has been long urgent, for the public's benefit.

I was for over fifty-two years veterinary practitioner and veterinary inspector for Berwick-on-Tweed, and I never received a request to serve on any jury. Moreover, I never heard any suggestion that it was unfair; or that it placed any burden on any one else. I have not the slightest idea that my absence ever led to any defect in the administration of justice. On that subject the old Borough has set a good example. Urge others to follow our good leading.—Yours, etc., JOHN CAMERON.

Berwick-on-Tweed,
August 23rd, 1924.

An Improved Dental Syringe.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Some years ago I wrote to the *Record* with reference to the use of cocaine in general practice, and I received several letters asking for particulars of the syringe I use. I gladly gave all the information possible and loaned my syringe, while I also got some criticism as to the dangers and alleged impossible procedure, which I answered by asking the gentlemen to try for themselves.

Since then I have tried all sorts of methods for utilising dental methods in veterinary practice, for all know how difficult it is to keep syringes and needles clean and efficient.

I purchased a syringe from a local dentist, and also a small glass metal-capped bottle, and made a hole to fit the syringe, which, in turn, was soldered to the metal top. This then fitted into the bottle containing absolute alcohol, and holding the needle.

I have used this needle and syringe for years without a mishap. I requested the Dental Manufacturing Co. to endeavour to improve upon it by adopting some suggestions of mine, and I may say they have produced a case and syringe which should have a ready sale.

The syringe is a washerless one, and has a good grip, enabling one to diffuse the solution into the tissues. The whole thing is in a metal and glass holder containing alcohol, and this fits on a metal foot when in use. The whole case can be placed on a small shelf and, as one is working, the syringe can be inserted into the alcohol and is kept sterile and free from dust. When finished, all one has to do is to place it back into the case, when it is again ready and clean, thus avoiding the blocking up of the needles, which is such a bugbear in country practice.

The metal case has a receptacle for needles and a bottle of solution, also a tray with side loops to lift out.

I understand this appliance will be on view at Aberdeen, and I advise those attending the meeting to inspect it. Several gentlemen who have seen the one I have are delighted with it, and intend to purchase one of this type.—Yours faithfully, H. BIBBEY.

Winsford, *August 25th*, 1924.

National Veterinary Medical Association of Great Britain and Ireland, Limited.

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Cheques should be made payable and all communications sent to the General Secretary at the Offices of the Association, 10 Gray's Inn Square, London, W.C.1.